

# SCHLUMBERGER

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## FACSIMILE HEADER SHEET

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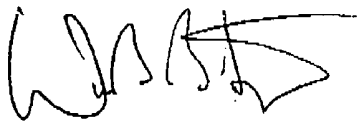
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## MESSAGE

Examiner Le,

Attached, as we discussed earlier today, is an abstract for U.S. Patent Application Serial No. 09/936,863, our docket no. 57.0326-WO. Regards.



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## ABSTRACT

An improved de-ghosting method and system that utilizes multi-component marine seismic data recorded in a fluid medium. The method makes use of two types of data: pressure data that represents the pressure in the fluid medium, such as sea water, at a number of locations; and vertical particle motion data that represents the vertical particle motion of the acoustic energy propagating in the fluid medium at a number of locations within the same spatial area as the pressure data. The vertical particle motion data can be in various forms, for example, velocity, pressure gradient, displacement, or acceleration. A spatial filter is designed so as to be effective at separating up and down propagating acoustic energy over substantially the entire range of non-horizontal incidence angles in the fluid medium. The spatial filter is applied to either the vertical particle motion data or to the pressure data, and then combined with the other data to generate pressure data that has its up and down propagating components separated.